Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A method of watermarking a digital image, comprising the steps of:

transforming the digital image using a wavelet transform(WT);

transforming a watermark ~~using~~ using a discrete cosine transform(DCT); and

integrating the DCT-transformed watermark with the wavelet-transformed image to generate a watermark-embedded image, wherein the DCT-transformed watermark is further transformed using m-level wavelet transform before being integrated with the wavelet-transformed image.

Claim 2 (currently amended): The method of claim 1, further comprising the step of inverse wavelet transforming the wavelet transformed image.

Claim 3 (canceled)

Claim 4 (currently amended): The method of claim [[3]]1, wherein said wavelet transform is performed using a filter bank realizing high-speed wavelet-transform.

Claim 5 (original): The method of claim 1, wherein said wavelet transform is performed using a filter bank realizing high-speed wavelet-transform.

Claim 6 (original): The method of claim l, wherein in obtaining the image integrated with a watermark, a scaling parameter, α, is used to adjust the spacing between the original image and the watermark.

Claim 7 (original): The method of claim l, wherein the digital image and the watermark are black and white.

Claim 8 (currently amended): A system for watermarking a digital image comprising:

means for providing a digital image and a watermark; ~~and~~

a digital processing system for transforming the digital image using wavelet transform (WT), transforming the watermark using discrete cosine transform (DCT), and integrating the DCT-transformed watermark with the wavelet -transformed image to generate a watermark- ~~embeded~~embedded image;

means for carrying out digital watermarking a black and white image using the wavelet transform (WT) and the discrete cosine transform (DCT), wherein the watermark is black and white; and

means for providing an m-level wavelet transform (WT) before the DCT-transformed watermark it is integrated wavelet transformed image.

Claim 9 (canceled)

Claim 10 (canceled)

Claim 11 (currently amended): The system of claim [[9]]8, ~~wherein the system includes~~ further comprising filter-banks for providing high-speed wavelet-transform and for providing inverse wavelet transform.

Claim 12 (currently amended): A method of digital watermarking a color image comprising the steps of;

discrete cosine transform (DCT) transforming a watermark,

wavelet transform (WT) transforming a color image, and

integrating the DCT-transformed watermark with wavelet transform (WT) color image, wherein the DCT-transformed watermark WC(y) is further transformed using m-level wavelet transform before being integrated with the wavelet-transformed color image DW(x).

Claim 13 (currently amended): A method of claim 12, further comprising the steps of:

converting the color image in the RGB mode, RGB(x), into Y(x), I(x), and Q(x)in the YIQ mode using a conversion matrix.[[,]]

Claim 14 (currently amended): A method of claim 13, further comprising the steps of:

transforming Y(x) of the converted image using wavelet transform;

transforming a watermark, W(y), using discrete cosine transform (DCT);

integrating the DCT-transformed watermark, WC (y), with the wavelet-transformed color image, DW (x);

generating Y-values of the integrated image, Y (x)', using inverse wavelet transform; and

generating a watermark-embedded image in the RGB mode, RGB(x)', by inverse transformation of Y(x)', I(x)', and Q(x)'.

Claim 15 (canceled)

Claim 16 (original): The method of claim 12, wherein said wavelet transform is performed using filter-banks realizing high-speed wavelet-transform.

Claim 17 (canceled)

Claim 18 (canceled)

Claim 19 (canceled)

Claim 20 (currently amended): A system of digital watermarking a color image, comprising:

means for converting the color image in the RGB mode, RGB(x), into Y(x), I(x), and Q(x) in the YIQ mode using a conversion matrix;

means for transforming Y(x) of the converted image using wavelet transform;

means for transforming a watermark, W(y), using DCT;

means for further transforming the DCT-transformed watermark WC(y)[[)]] using m-level wavelet transform;

means for integrating the DCT-transformed watermark, WC (y), with the wavelet-transformed color image, DW (x);

means for generating Y-values of the integrated image, Y (x)', using inverse wavelet transform; and

means for generating a watermark-embedded image in the RGB mode, RGB(x)', by inverse transformation of Y(x)', I(x)', and Q(x)'.